

# PATENT ABSTRACTS OF JAPAN

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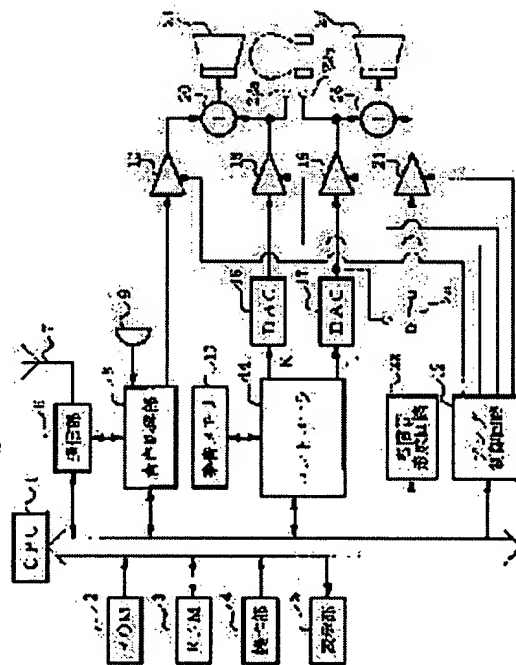
(72)Inventor : YAMAMOTO YUSUKE

## (54) PORTABLE TELEPHONE SET

### (57)Abstract:

PROBLEM TO BE SOLVED: To provide a portable telephone set having both of the function of telephone and the function of a music player.

SOLUTION: The portable telephone set is provided with a musical sound memory 13, a controller 14, DACs 16, 17, amplifiers 18 and 19. Musical sound data distributed from a download center is written temporarily in a RAM 3 and written in the memory 13 just before starting playing with a user's instruction. Next, the controller 14 reads the musical sound data in the memory 13 successively and supplies it to the DACs 16 and 17. The DACs 16 and 17 convert the musical sound data to an analog signal and outputs it to speakers 21 and 27 via the amplifiers 18, 19 and mixers 20 and 26. Thus, stereo musical sound is generated from the speakers 21 and 27.



## LEGAL STATUS

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**CLAIMS**

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[Claim(s)]

[Claim 1] A ringer tone generating means to generate a ringer tone based on the terminating signal received through the wireless circuit, In the portable telephone possessing a voice pronunciation means to change into voice the sound signal received through the wireless circuit, and to pronounce it, and a voice dispatch means to put and send the sound signal outputted from a microphone to a subcarrier The portable telephone which comes to provide a musical-sound signal generation means to output the musical-sound signal of two channels, and the 1st and 2nd loudspeaker to which it is arranged side by side towards the same direction, and said musical-sound signal of two channels is impressed, respectively.

[Claim 2] It is the portable telephone according to claim 1 which said ringer tone generating means generates a ringer tone by said 1st loudspeaker, and is characterized by said voice generating means pronouncing voice by said 2nd loudspeaker.

[Claim 3] Said musical-sound signal generation means is a portable telephone according to claim 1 or 2 characterized by providing a cross talk cancellation circuit.

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**DETAILED DESCRIPTION**

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates [ both ] to the portable telephone which has the function of a telephone, and the function of a music player.

[0002]

[Description of the Prior Art] The conventional portable telephone attains only a telephone function and using it as a music player was not considered at all. On the other hand, both the music players (pocket mold MAG tape player etc.) of a portable telephone and a pocket mold have spread widely, and its people with the both sides of a portable telephone and a pocket mold music player are increasing in recent years. However, having these [ both ] does not become heavy and have a desirable pocket etc.

[0003]

[Problem(s) to be Solved by the Invention] This invention was made in consideration of such a situation, and that purpose is [ both ] in offering the portable telephone which has the function of a telephone, and the function of a music player.

[0004]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, invention according to claim 1 A ringer tone generating means to generate a ringer tone based on the terminating signal received through the wireless circuit, In the portable telephone possessing a voice pronunciation means to change into voice the sound signal received through the wireless circuit, and to pronounce it, and a voice dispatch means to put and send the sound signal outputted from a microphone to a subcarrier It is characterized by preparing a musical-sound signal generation means to output the musical-sound signal of two channels, and the 1st and 2nd loudspeaker to which it is arranged side by side towards the same direction, and said musical-sound signal of two channels is impressed, respectively.

[0005] Moreover, as for said ringer tone generating means, invention according to claim 2 generates a ringer tone by said 1st loudspeaker in a portable telephone according to claim 1, and said voice generating means is characterized by pronouncing voice by said 2nd loudspeaker. Moreover, invention according to claim 3 is characterized by said musical-sound signal generation means possessing a cross talk cancellation circuit in a portable telephone according to claim 1 or 2.

[0006]

[Embodiment of the Invention] Hereafter, 1 operation gestalt of this invention is explained with reference to a drawing. Drawing 1 is the block diagram showing the configuration of the portable telephone by this operation gestalt. In this drawing, the programs of CPU1 of CPU (central processing unit) by which a sign 1 controls each part of a circuit, and 2 are memorized ROM (read-only memory) and RAM for data storage in 3 (random access memory). As for this RAM3, the battery back-up is carried out. The control unit in which the ten key for a telephone number input in 4, various function keys, etc. were formed, and 5 are the displays by the liquid crystal display.

[0007] 6 is the communications department which has an antenna 7, restores to the incoming data which put the transmit data on the subcarrier, and transmitted from the antenna 7, and received a message

through the antenna 7, and outputs it to CPU1 or the speech processing section 8. The speech processing section 8 changes into an analog sound signal the voice data which changes into digital data the sound signal outputted from the microphone 9, compresses further, and outputs to the communications department 6 as transmit data, and is outputted from the communications department 6, and outputs it to amplifier 10. Amplifier 10 is amplifier which amplifies a sound signal, and the gain is controlled by the signal supplied to the control terminal from the amplifier control circuit 12.

[0008] 13 is musical-sound memory and the digital musical-sound data R (right) channel for one music and for L (left) channels are memorized. In addition, this musical-sound memory 13 can also be used with RAM3 in common. It is a read/write controller, and 14 writes the musical-sound data supplied through a bus line from CPU1 in the musical-sound memory 13, and reads the musical-sound data in the musical-sound memory 13, and R channel musical-sound data are outputted to DAC (digital to analog converter)16, and it outputs L channel musical-sound data to DAC17. DACs 16 and 17 change into an analog musical-sound signal the musical-sound data respectively outputted from a controller 14, and output them to amplifier 18 and 19. Amplifier 18 and 19 is amplifier of the same configuration as amplifier 10.

[0009] 20 is a mixer, mixes the output of amplifier 10 and 18 and outputs it to a loudspeaker 21. 22a and 22b are headphone output terminals. 23 is the ringer tone generating section, forms a ringer tone signal according to the directions from CPU1, and outputs it to amplifier 24 through a changeover switch 25. Amplifier 24 is amplifier of the same configuration as amplifier 10. 26 is a mixer, mixes the output of amplifier 19 and 24 and outputs it to a loudspeaker 27. Loudspeakers 27 are a loudspeaker 21 and a loudspeaker of this specification, and are highly efficient loudspeakers which can reproduce a musical-sound signal. And towards both the front, it approaches and these loudspeakers 21 and 27 are arranged in the upper part of a portable telephone, as shown in drawing 2 (b). Drawing 2 (b) is drawing showing the up transverse plane of a portable telephone, an appearance looks like one loudspeaker and two loudspeakers are arranged inside. The amplifier control circuit 12 outputs a gain control signal to the control terminal of each amplifier 10, 18, 19, and 24 based on the amplifier control data supplied from CPU1.

[0010] Next, actuation of the portable telephone by the above-mentioned configuration is explained. This portable telephone has the function as a music player other than the function as telephone. First, the actuation in the case of using it as telephone is explained. First, at the time of the arrival of a telephone, the communications department 6 restores to the terminating signal received through the antenna 7, and the incoming data obtained by this is outputted to CPU1. CPU1 outputs generating directions to the ringer tone generating section 23 while it receives this incoming data and makes RAM3 memorize the telephone number of a sending agency. The ringer tone generating section 23 receives these generating directions, and outputs a ringer tone signal to amplifier 24 through a changeover switch 25. Amplifier 24 amplifies this ringer tone signal, and outputs it to a loudspeaker 27 through a mixer 26. Thereby, a ringer tone occurs from a loudspeaker 27.

[0011] If the user of a portable telephone hears this ringer tone and pushes the receiving carbon button of a control unit 4, while CPU1 will detect this and will output a ringer tone halt command to the ringer tone generating section 23, line connection directions are outputted to the speech processing section 8 and the communications department 6. Henceforth, a circuit is connected a sending agency and the sound signal of a microphone 9 is transmitted to a sending agency. Moreover, the sound signal based on the voice data from a sending agency is outputted from the speech processing section 8, and is supplied to a loudspeaker 21 through amplifier 10 and a mixer 20. Thereby, voice is pronounced from a loudspeaker 21.

[0012] Next, first, with the ten key of a control unit 4, a user inputs the telephone number at the time of dispatch, and, subsequently pushes a dispatch carbon button at it. If the telephone number is inputted by the ten key, CPU1 will write in this telephone number in RAM3. Subsequently, if a dispatch carbon button is pushed, CPU1 will output the telephone number made to memorize in RAM3 to the communications department 6. The communications department 6 puts the telephone number on a subcarrier, and transmits from an antenna 7. If the call based on the transmitted telephone number is sent

to a transmission place telephone and the line connection of a transmission place telephone is performed, CPU1 will output line connection directions to the communications department 6 and the speech processing section 8, and the message by the microphone 9 and the loudspeaker 21 will be performed henceforth. In addition, the above-mentioned processing is the same as processing of the conventional portable telephone.

[0013] Next, the case where this portable telephone is used as a music player is explained with reference to drawing 3. In this case, first, a user telephones a download center and demands distribution of a musical piece (step S1). Here, a download center is the computer made only for music distributions, the demand through the telephone line is received from a user, and the musical-sound data of music with a demand are distributed for pay. The musical-sound data from a download center are supplied to CPU1 through the communications department 6. CPU1 writes this musical-sound data in RAM3 (step S2).

[0014] Next, a user chooses one in the music which received download by the key of a control unit 4 (step S3). CPU1 receives this key stroke, reads the musical-sound data of the selected music from RAM3, and outputs them to a controller 14. A controller 14 writes this musical-sound data in the musical-sound memory 13 (step S4). Next, a user performs the key stroke which directs a music start (step S5). CPU1 receives this key stroke and outputs start directions to a controller 14. Henceforth, a controller 14 reads the musical-sound data of a R/L channel from the musical-sound memory 13 one by one, and outputs them to DACs 16 and 17. DACs 16 and 17 change into an analog musical-sound signal the musical-sound data outputted from a controller 14, and output them to loudspeakers 21 and 27 through amplifier 18 and 19 and mixers 20 and 26. Thereby, stereo musical sound occurs from loudspeakers 21 and 27 (step S6). In addition, it is also possible to hear this stereo musical sound by the headphone linked to the headphone output terminals 22a and 22b.

[0015] Here, if a user operates the key of a control unit and changes sound volume, CPU1 will output the sound-volume data according to the key stroke to the amplifier control circuit 12. The amplifier control circuit 12 outputs the gain control signal corresponding to the sound-volume data to amplifier 18 and 19. Thereby, the gain of amplifier 18 and 19 is adjusted.

[0016] Next, while performing musical-sound playback mentioned above, when there is arrival of the mail, CPU1 outputs the sound-volume data which direct to lower the gain of amplifier 18 and 19 to constant value to the amplifier control circuit 12 while outputting ringer tone generating directions to the ringer tone formation circuit 23. Thereby, a ringer tone occurs from a loudspeaker 27, and the sound volume of musical sound falls. And if a user pushes a receiving carbon button, a message will become possible henceforth.

[0017] In addition, in the above-mentioned configuration, a changeover switch 25 may be thrown into the DAC17 side, and the playback musical sound outputted from DAC17 may be used as a melody signaling an incoming call. Moreover, as shown in drawing 4, the well-known cross talk cancellation circuit 30 may be established in the output side of a controller 14. This cross talk cancellation circuit 30 is a circuit which cancels respectively the sound which reaches to a listening person's right ear from the sound which reaches from a right-hand side loudspeaker to a listening person's left ear, and a left loudspeaker, and consists of four FIR filters 31-34 and adder circuits 35 and 36. It also becomes possible by inserting this cross talk cancellation circuit 30, and adjusting a filter shape to become possible to hear the sound which was excellent in a feeling of a stereo, and to tell only a front man a sound. Moreover, although the technique of the stereo dipole which makes possible stereophonic reproduction which arranges a virtual source in the location of the arbitration of three-dimensions space, and has a feeling of breadth in it by two loudspeakers which approached in the combination of a head transfer function (HRTF) and a cross talk cancellation filter is known, the good stereophonic reproduction also of the loudspeaker arrangement which approached like drawing 2 (b) becomes possible by using the technique.

[0018]

[Effect of the Invention] Since a musical-sound signal generation means to output the musical-sound signal of two channels to a portable telephone, and the 1st and 2nd loudspeaker to which it is arranged side by side towards the same direction, and the musical-sound signal of two channels is impressed,

respectively were prepared according to this invention as explained above, the portable telephone which has both the function of a telephone and the function of a music player can be offered.

[0019] Moreover, since according to invention according to claim 2 a ringer tone generating means generates a ringer tone by the 1st loudspeaker and the voice generating means pronounced voice by the 2nd loudspeaker, the advantage which can perform musical-sound playback is acquired, without increasing the number of loudspeakers. Moreover, according to invention according to claim 3, since a musical-sound signal generation means possesses a cross talk cancellation circuit, the musical sound which was excellent in a feeling of a stereo can be generated.

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**TECHNICAL FIELD**

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[Field of the Invention] This invention relates [ both ] to the portable telephone which has the function of a telephone, and the function of a music player.

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PRIOR ART

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[Description of the Prior Art] The conventional portable telephone attains only a telephone function and using it as a music player was not considered at all. On the other hand, both the music players (pocket mold MAG tape player etc.) of a portable telephone and a pocket mold have spread widely, and its people with the both sides of a portable telephone and a pocket mold music player are increasing in recent years. However, having these [ both ] does not become heavy and have a desirable pocket etc.

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**EFFECT OF THE INVENTION**

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[Effect of the Invention] Since a musical-sound signal generation means to output the musical-sound signal of two channels to a portable telephone, and the 1st and 2nd loudspeaker to which it is arranged side by side towards the same direction, and the musical-sound signal of two channels is impressed, respectively were prepared according to this invention as explained above, the portable telephone which has both the function of a telephone and the function of a music player can be offered.

[0019] Moreover, since according to invention according to claim 2 a ringer tone generating means generates a ringer tone by the 1st loudspeaker and the voice generating means pronounced voice by the 2nd loudspeaker, the advantage which can perform musical-sound playback is acquired, without increasing the number of loudspeakers. Moreover, according to invention according to claim 3, since a musical-sound signal generation means possesses a cross talk cancellation circuit, the musical sound which was excellent in a feeling of a stereo can be generated.

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**TECHNICAL PROBLEM**

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[Problem(s) to be Solved by the Invention] This invention was made in consideration of such a situation, and that purpose is [ both ] in offering the portable telephone which has the function of a telephone, and the function of a music player.

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## MEANS

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[Means for Solving the Problem] In order to attain the above-mentioned purpose, invention according to claim 1 A ringer tone generating means to generate a ringer tone based on the terminating signal received through the wireless circuit, In the portable telephone possessing a voice pronunciation means to change into voice the sound signal received through the wireless circuit, and to pronounce it, and a voice dispatch means to put and send the sound signal outputted from a microphone to a subcarrier It is characterized by preparing a musical-sound signal generation means to output the musical-sound signal of two channels, and the 1st and 2nd loudspeaker to which it is arranged side by side towards the same direction, and said musical-sound signal of two channels is impressed, respectively.

[0005] Moreover, as for said ringer tone generating means, invention according to claim 2 generates a ringer tone by said 1st loudspeaker in a portable telephone according to claim 1, and said voice generating means is characterized by pronouncing voice by said 2nd loudspeaker. Moreover, invention according to claim 3 is characterized by said musical-sound signal generation means possessing a cross talk cancellation circuit in a portable telephone according to claim 1 or 2.

[0006]

[Embodiment of the Invention] Hereafter, 1 operation gestalt of this invention is explained with reference to a drawing. Drawing 1 is the block diagram showing the configuration of the portable telephone by this operation gestalt. In this drawing, the programs of CPU1 of CPU (central processing unit) by which a sign 1 controls each part of a circuit, and 2 are memorized ROM (read-only memory) and RAM for data storage in 3 (random access memory). As for this RAM3, the battery back-up is carried out. The control unit in which the ten key for a telephone number input in 4, various function keys, etc. were formed, and 5 are the displays by the liquid crystal display.

[0007] 6 is the communications department which has an antenna 7, restores to the incoming data which put the transmit data on the subcarrier, and transmitted from the antenna 7, and received a message through the antenna 7, and outputs it to CPU1 or the speech processing section 8. The speech processing section 8 changes into an analog sound signal the voice data which changes into digital data the sound signal outputted from the microphone 9, compresses further, and outputs to the communications department 6 as transmit data, and is outputted from the communications department 6, and outputs it to amplifier 10. Amplifier 10 is amplifier which amplifies a sound signal, and the gain is controlled by the signal supplied to the control terminal from the amplifier control circuit 12.

[0008] 13 is musical-sound memory and the digital musical-sound data R (right) channel for one music and for L (left) channels are memorized. In addition, this musical-sound memory 13 can also be used with RAM3 in common. It is a read/write controller, and 14 writes the musical-sound data supplied through a bus line from CPU1 in the musical-sound memory 13, and reads the musical-sound data in the musical-sound memory 13, and R channel musical-sound data are outputted to DAC (digital to analog converter)16, and it outputs L channel musical-sound data to DAC17. DACs 16 and 17 change into an analog musical-sound signal the musical-sound data respectively outputted from a controller 14, and output them to amplifier 18 and 19. Amplifier 18 and 19 is amplifier of the same configuration as amplifier 10.

[0009] 20 is a mixer, mixes the output of amplifier 10 and 18 and outputs it to a loudspeaker 21. 22a and 22b are headphone output terminals. 23 is the ringer tone generating section, forms a ringer tone signal according to the directions from CPU1, and outputs it to amplifier 24 through a changeover switch 25. Amplifier 24 is amplifier of the same configuration as amplifier 10. 26 is a mixer, mixes the output of amplifier 19 and 24 and outputs it to a loudspeaker 27. Loudspeakers 27 are a loudspeaker 21 and a loudspeaker of this specification, and are highly efficient loudspeakers which can reproduce a musical-sound signal. And towards both the front, it approaches and these loudspeakers 21 and 27 are arranged in the upper part of a portable telephone, as shown in drawing 2 (b). Drawing 2 (b) is drawing showing the up transverse plane of a portable telephone, an appearance looks like one loudspeaker and two loudspeakers are arranged inside. The amplifier control circuit 12 outputs a gain control signal to the control terminal of each amplifier 10, 18, 19, and 24 based on the amplifier control data supplied from CPU1.

[0010] Next, actuation of the portable telephone by the above-mentioned configuration is explained. This portable telephone has the function as a music player other than the function as telephone. First, the actuation in the case of using it as telephone is explained. First, at the time of the arrival of a telephone, the communications department 6 restores to the terminating signal received through the antenna 7, and the incoming data obtained by this is outputted to CPU1. CPU1 outputs generating directions to the ringer tone generating section 23 while it receives this incoming data and makes RAM3 memorize the telephone number of a sending agency. The ringer tone generating section 23 receives these generating directions, and outputs a ringer tone signal to amplifier 24 through a changeover switch 25. Amplifier 24 amplifies this ringer tone signal, and outputs it to a loudspeaker 27 through a mixer 26. Thereby, a ringer tone occurs from a loudspeaker 27.

[0011] If the user of a portable telephone hears this ringer tone and pushes the receiving carbon button of a control unit 4, while CPU1 will detect this and will output a ringer tone halt command to the ringer tone generating section 23, line connection directions are outputted to the speech processing section 8 and the communications department 6. Henceforth, a circuit is connected a sending agency and the sound signal of a microphone 9 is transmitted to a sending agency. Moreover, the sound signal based on the voice data from a sending agency is outputted from the speech processing section 8, and is supplied to a loudspeaker 21 through amplifier 10 and a mixer 20. Thereby, voice is pronounced from a loudspeaker 21.

[0012] Next, first, with the ten key of a control unit 4, a user inputs the telephone number at the time of dispatch, and, subsequently pushes a dispatch carbon button at it. If the telephone number is inputted by the ten key, CPU1 will write in this telephone number in RAM3. Subsequently, if a dispatch carbon button is pushed, CPU1 will output the telephone number made to memorize in RAM3 to the communications department 6. The communications department 6 puts the telephone number on a subcarrier, and transmits from an antenna 7. If the call based on the transmitted telephone number is sent to a transmission place telephone and the line connection of a transmission place telephone is performed, CPU1 will output line connection directions to the communications department 6 and the speech processing section 8, and the message by the microphone 9 and the loudspeaker 21 will be performed henceforth. In addition, the above-mentioned processing is the same as processing of the conventional portable telephone.

[0013] Next, the case where this portable telephone is used as a music player is explained with reference to drawing 3. In this case, first, a user telephones a download center and demands distribution of a musical piece (step S1). Here, a download center is the computer made only for music distributions, the demand through the telephone line is received from a user, and the musical-sound data of music with a demand are distributed for pay. The musical-sound data from a download center are supplied to CPU1 through the communications department 6. CPU1 writes this musical-sound data in RAM3 (step S2).

[0014] Next, a user chooses one in the music which received download by the key of a control unit 4 (step S3). CPU1 receives this key stroke, reads the musical-sound data of the selected music from RAM3, and outputs them to a controller 14. A controller 14 writes this musical-sound data in the musical-sound memory 13 (step S4). Next, a user performs the key stroke which directs a music start

(step S5). CPU1 receives this key stroke and outputs start directions to a controller 14. Henceforth, a controller 14 reads the musical-sound data of a R/L channel from the musical-sound memory 13 one by one, and outputs them to DACs 16 and 17. DACs 16 and 17 change into an analog musical-sound signal the musical-sound data outputted from a controller 14, and output them to loudspeakers 21 and 27 through amplifier 18 and 19 and mixers 20 and 26. Thereby, stereo musical sound occurs from loudspeakers 21 and 27 (step S6). In addition, it is also possible to hear this stereo musical sound by the headphone linked to the headphone output terminals 22a and 22b.

[0015] Here, if a user operates the key of a control unit and changes sound volume, CPU1 will output the sound-volume data according to the key stroke to the amplifier control circuit 12. The amplifier control circuit 12 outputs the gain control signal corresponding to the sound-volume data to amplifier 18 and 19. Thereby, the gain of amplifier 18 and 19 is adjusted.

[0016] Next, while performing musical-sound playback mentioned above, when there is arrival of the mail, CPU1 outputs the sound-volume data which direct to lower the gain of amplifier 18 and 19 to constant value to the amplifier control circuit 12 while outputting ringer tone generating directions to the ringer tone formation circuit 23. Thereby, a ringer tone occurs from a loudspeaker 27, and the sound volume of musical sound falls. And if a user pushes a receiving carbon button, a message will become possible henceforth.

[0017] In addition, in the above-mentioned configuration, a changeover switch 25 may be thrown into the DAC17 side, and the playback musical sound outputted from DAC17 may be used as a melody signaling an incoming call. Moreover, as shown in drawing 4, the well-known cross talk cancellation circuit 30 may be established in the output side of a controller 14. This cross talk cancellation circuit 30 is a circuit which cancels respectively the sound which reaches to a listening person's right ear from the sound which reaches from a right-hand side loudspeaker to a listening person's left ear, and a left loudspeaker, and consists of four FIR filters 31-34 and adder circuits 35 and 36. It also becomes possible by inserting this cross talk cancellation circuit 30, and adjusting a filter shape to become possible to hear the sound which was excellent in a feeling of a stereo, and to tell only a front man a sound. Moreover, although the technique of the stereo dipole which makes possible stereophonic reproduction which arranges a virtual source in the location of the arbitration of three-dimensions space, and has a feeling of breadth in it by two loudspeakers which approached in the combination of a head transfer function (HRTF) and a cross talk cancellation filter is known, the good stereophonic reproduction also of the loudspeaker arrangement which approached like drawing 2 (b) becomes possible by using the technique.

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DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the block diagram showing the configuration of 1 operation gestalt of this invention.

[Drawing 2] It is drawing showing the installation location of the loudspeakers 21 and 27 in this operation gestalt, and (b) shows the interior of the upper part of a portable telephone, and (b) is the up front view of a portable telephone.

[Drawing 3] It is a flow chart for explaining actuation of this operation gestalt.

[Drawing 4] It is the circuit diagram showing the configuration of the cross talk cancellation circuit attached in the posterior part of the controller 14 of this operation gestalt.

[Description of Notations]

1 [ -- A control unit, 5 / -- A display, 6 / -- The communications department, 8 / -- The speech processing section, 9 / -- A microphone, 13 / -- Musical-sound memory, 14 / -- 16 A controller, 17 / -- 21 DAC, 27 / -- A loudspeaker, 23 / -- Ringer tone formation circuit. ] -- CPU, 2 -- ROM, 3 -- RAM, 4

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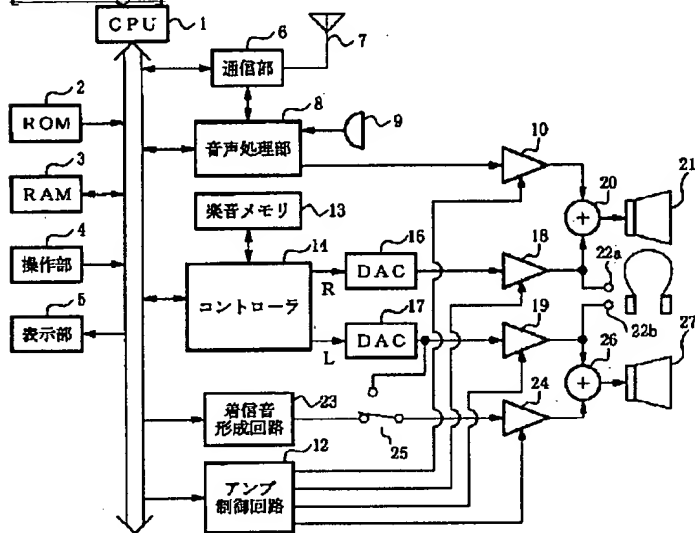
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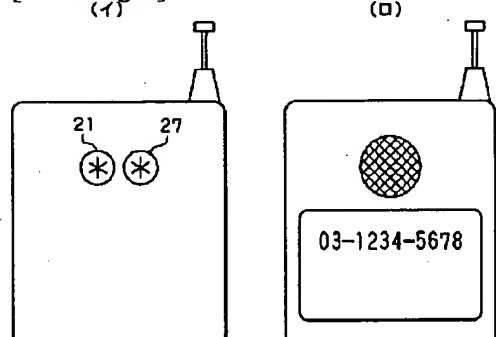
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DRAWINGS

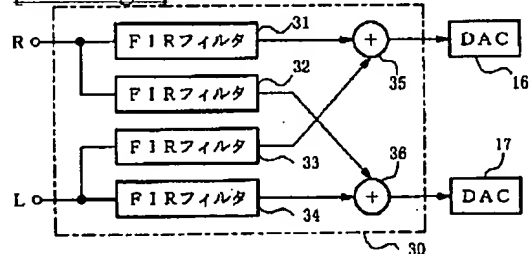
[Drawing 1]



[Drawing 2]

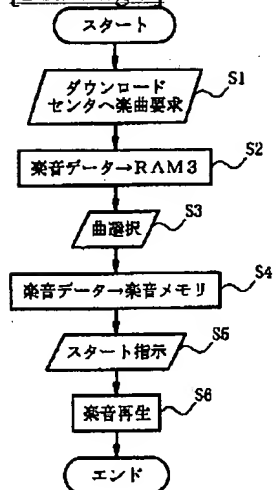


[Drawing 4]





[Drawing 3]



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CORRECTION OR AMENDMENT

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[Kind of official gazette] Printing of amendment by the convention of 2 of Article 17 of Patent Law  
[Section partition] The 3rd partition of the 7th section  
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[Procedure amendment 1]  
[Document to be Amended] Specification  
[Item(s) to be Amended] Claim 1  
[Method of Amendment] Modification  
[Proposed Amendment]  
[Claim 1] A ringer tone generating means to generate a ringer tone based on the terminating signal received through the wireless circuit,  
A voice pronunciation means to change into voice the sound signal received through the wireless circuit, and to pronounce it,  
In the portable telephone possessing a voice dispatch means to put and send the sound signal outputted from a microphone to a subcarrier,  
A musical-sound signal generation means to output the musical-sound signal of two channels, The 1st and 2nd loudspeaker to which said musical-sound signal of two channels is impressed, respectively,  
The portable telephone which it comes to provide.  
[Procedure amendment 2]  
[Document to be Amended] Specification

[Item(s) to be Amended] 0004

[Method of Amendment] Modification

[Proposed Amendment]

[0004]

[Means for Solving the Problem] The portable telephone possessing a voice dispatch means puts on a subcarrier a ringer tone generating means generate a ringer tone based on the terminating signal which invention according to claim 1 received through the wireless circuit, a voice pronunciation means change into voice the sound signal received through the wireless circuit, and pronounce it, and the sound signal outputted from a microphone in order that this invention may attain the above-mentioned purpose, and send is characterized by to provide the following. A musical-sound signal generation means to output the musical-sound signal of two channels The 1st and 2nd loudspeaker to which said musical-sound signal of two channels is impressed, respectively

[Procedure amendment 3]

[Document to be Amended] Specification

[Item(s) to be Amended] 0018

[Method of Amendment] Modification

[Proposed Amendment]

[0018]

[Effect of the Invention] Since a musical-sound signal generation means to output the musical-sound signal of two channels to a portable telephone, and the 1st and 2nd loudspeaker to which the musical-sound signal of two channels is impressed, respectively were prepared according to this invention as explained above, the portable telephone which has both the function of a telephone and the function of a music player can be offered.

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[Translation done.]